Title: How Sharp Is Your Memory?

Brief Overview:

In this activity students will be asked to test their memories using picture or word sets. Students will be asked to recall as many items as they can from each set in a certain length of time. Students will collect, organize, and interpret this data through several statistical methods.

Links to NCTM Standards:

- **Mathematics as Problem Solving**
  Students will apply the process of mathematical modeling to real-world problem situations.

- **Mathematics as Communication**
  Students will reflect upon and clarify their thinking about mathematical ideas and relationships. Students will express generalizations discovered through investigations. Students will express mathematical ideas orally and in writing.

- **Mathematics as Reasoning**
  Students will make and test conjectures based on predictions.

- **Mathematical Connections**
  Students will recognize equivalent representations of the same concept. Students will use and value the connections between mathematics and other disciplines.

- **Statistics**
  Students will construct and draw inferences from charts, tables, and graphs that summarize data from real world situations. Students will use curve fitting to predict from data. Students will understand and apply measures of central tendency. Students will transform data to aid in data interpretation and prediction.

Links to Maryland High School Mathematics Core Learning Goals:

- **1.1.1**
  The student will recognize, describe, and extend patterns and functional relationships that are expressed numerically and algebraically.

- **1.1.2**
  The student will represent patterns and functional relationships in a table, as a graph, and/or by mathematical expressions.

- **3.1.2**
  The student will use the measures of central tendency and variability to make informed conclusions.

- **3.2.2**
  The student will make predictions by finding and using a line of best fit.

Grade/Level:

Appropriate for any grade level of Algebra I

Duration/Length:

Three to four class periods (variable)

Prerequisite Knowledge:

Students should have working knowledge of the following skills :

- Using the TI-82 calculator
- Computing the mean, median, and mode for a data set
- Constructing a histogram, stem and leaf, box and whisker, and scatter plot
- Finding the line of best fit

Objectives:

Students will:

- collect and organize raw data.
- use graphing calculators to organize, graph, and interpret a set of data.
- make predictions and write a summary based on statistical findings.

Materials/Resources/Printed Materials:

- TI-82 for each student /overhead projector
- Overhead of word lists
- Graph paper or spreadsheet to record results
- Student worksheet #1 and student worksheet #2
- Spreadsheet with class results

Development/Procedures: (activity length approx. 2-3 days/45 minute periods)

Warm-up (Day 1)

1. Rate your memory skills from 0 to 10. (0 means poor memory skills; 10 means perfect memory skills)
2. After looking at 12 words for 30 seconds, how many do you think you can remember?
3. If we repeat this activity with different sets of words, do you think you will remember more or less words?

Data Collection (Day 1)

1. The teacher will explain that the purpose of the activity is to test your memory skills. Students will be asked to recall as many words as possible after looking at a list of 12 words. Students will do this 8 times. The results of the activity will be used for statistical analysis.
2. Students take a piece of paper and divide it into 8 sections. These sections should be numbered from 1 - 8.
3. The teacher will put the first list of words on the overhead for 30 seconds. At the end of the 30 seconds the overhead is turned off and the students write as many words as they remember on their paper in the section numbered 1. Students are allowed 45 seconds to write the words.
4. The teacher repeats step three for each of the word lists (8 total).
5. Students are given the lists again to check their words. They count the number of words that they remembered from each list. They write that number on their paper.

6. The teacher collects the students' papers and records the results on a spreadsheet. The spreadsheet is copied and given to each student for use with the TI-82.

Statistical Analysis (Days 2 & 3)

1. Teacher and class discuss the results of the activity. Discussion should include:
   a. Did your performance match your prediction?
   b. In which trial did most of the students score highest?
   c. In which trial did most of the students score lowest?
2. Teacher uses the worksheets to guide the students through the statistical analysis.

Teacher Notes

- Window settings on the calculator are extremely important.
- Teacher may want to have students practice worksheet #1 using more than one trial. (See problem #7.)
- Data collection should take place on the day before the worksheets are completed.
- Teacher should put student results on spreadsheet and make copy for each student.
- Teacher may want to expand on line of best fit.

Extension/Follow Up:

- Participate in group project.
  1. Have students collect and analyze other sets of data, using the processes practiced during this unit. Examples of data sets are: comparison of attention span and age; sales of CDs, cassettes, and records over the last 40 years; and volumes of sales of different types of music.
  2. Have students complete a writing activity that explains the data set they chose. This activity must include two statistical displays that best represent the data and reasons for choosing those displays. Students should make a prediction based on this data.
  3. Have students create posters or bulletin boards to display their work.
- Complete assessment.

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cat	**rose**
tomato	**water**
skating	**football**
decimal	**Germany**
dog	**pizza**
daisy	**gatorade**

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skiing	**baseball**
fraction	**France**
mouse	**grass**
ice cream	**juice**
dancing	**soccer**
perimeter	**Pakistan**

owl	**maple**
hamburgers	**lemonade**
bowling	**basketball**
area	**India**
horse	**moss**
lettuce	**coffee**

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sledding	**lacrosse**
equation	**China**
giraffe	**tulip**
zucchini	**tea**
swimming	**badminton**
circle	**Korea**

lion	**bacon**
milk	**reading**
volleyball	**volume**
dandelion	**Mexico**
snake	**shrub**
broccoli	**soda**

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sewing	**tennis**
percent	**Guatemala**
whale	**marigolds**
tacos	**cocoa**
shopping	**golf**
integer	**Canada**

spider	**orchid**
potatoes	**milkshake**
bicycling	**track**
graph	**Nigeria**
elephant	**carnation**
bread	**punch**

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drawing	**wrestling**
point	**Jamaica**
pig	**oak**
spaghetti	**wine**
painting	**rugby**
calculator	**Finland**

Trial Table

TRIAL NUMBER

S T U D E N T N A M E

	1	2	3	4	5	6	7	8

STUDENT WORKSHEET #1 NAME_____

HOW SHARP IS YOUR MEMORY!!!????

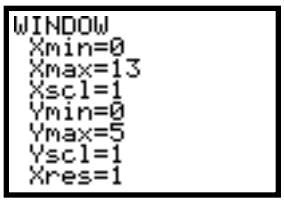
A. LINE PLOTS, HISTOGRAMS AND BOX & WHISKER DISPLAYS

Answer each question using the information collected from the memory activity. Write answers in complete sentences when appropriate. Label all graphs and answers.

1. Using the data from trial 1, construct a line plot or frequency chart.

2. Using the TI-82 and the data from trial 1, construct a histogram. Please sketch and label the histogram below.

STEPS:
To enter data:
Press **STAT**, choose #1 **Edit**
Enter data into **L1**
Press **2nd Y=** for **STAT PLOT**
Choose # 1 **Plot 1** and hit **Enter**
Turn Plot 1 **ON**
Use the right and left arrow keys and choose the **histogram icon**
Xlist should show **L1** and **Freq** should show **1**
Press **Graph**
(You may need to use the following window for your data)



3. What similarities do you see between the line plot and the histogram? Is one representation better than the other?

4. Using trial 1 data, find the mean, median, and mode. You may want to use the calculator (1ST VAR-STAT & SORT) or determine by pencil and paper.

MEAN _____ MODE _____

MEDIAN _____

4a. Describe different times when the mean, median, or mode may be the most appropriate ”average” of a set of data.

5. Using the TI-82 and trial 1 data, construct a box and whisker plot. Please sketch and label the box and whisker plot.
(Use the steps in #2 except choose **box and whisker icon** instead of **histogram icon**.)

Use the **TRACE** key to determine the values below.

MEDIAN _____

Q1_____ Min X_____ Q3_____ Max X_____

What does Q1 represent?_____

What does Q3 represent?_____

What does Min X represent?_____

What does Max X represent?_____

Calculate the interquartile range. _____

Calculate the range of the data. _____

6. Summarize and interpret your findings based on your trial 1 data. How do the different graphical displays and methods help you understand your data?

*7. In groups, complete questions 1-6 for a trial # assigned by your teacher. Record your results on posterboard and provide a summary to be shared with your classmates.

STUDENT WORKSHEET #2 NAME_____

HOW SHARP IS YOUR MEMORY!!!????

B. SCATTER PLOTS AND LINE OF BEST FIT

1. Using the class results spreadsheet provided by your teacher, calculate the mean for each of the eight trials to the nearest hundredth. Record on your spreadsheet.

2. Clear L1 stat list on calculator. Enter trial # in L1 list. Enter your mean for each trial in L2. Which list represents your dependent variable (x) and which one represents your independent variable(y)?

3. To view a scatter plot of your data:

STEPS:
Press **2nd Y=** , choose #1 **Plot 1** and turn **ON**. Choose **scatter plot icon**, **Xlist: L1 Ylist: L2**, Mark: **box** icon. Press **ZOOM** and choose #9 **ZOOMSTAT** which will choose a window for your data.

3a. Do the points on your scatter plot look linear?

3b. What is the direction of the data?

3c. Based on the data, does it appear the number of times you do the activity will affect the number of words you remember? Why or why not?

4. Use the TI-82 to find the line of best fit.

STEPS:
Go to **STAT**, **CALC** and choose #4 **LinReg (ax + b)**
LinReg (ax + b) should show up on the home screen. Press **Enter**. The calculator will default to L1 and L2 so you do not need to type it in.

What do the values for **a** and **b** represent? _____

Go to **Y=** (make sure there are no equations in your calculator)
Press **VARS** and choose #5: **Statistics**
Use right arrow to choose **EQ** and choose #1: **RegEQ**
Press **Enter** to see the equation in **Y1 =**
Press **GRAPH** to see line of best fit

EQUATION OF LINE OF BEST FIT: Y =

In the space below, sketch and label your scatter plot and line of best fit.

5. Does the line appear to represent the data? Give one reason to justify your answer.

6. Could you use the line of best fit to predict the number of words remembered after more than 8 trials? How would you do this?

7. Using your line of best fit, predict the number of words remembered on the following trials:

Trial #12 _____ Trial #15 _____

Trial #20 _____ Trial #30 _____

SUMMARY AND ANALYSIS

There were basic differences in the way we looked at different parts of our data. We have looked at line plots, histograms, box and whisker, scatter plots and line of best fit. We have also looked at the mean, median and mode of certain parts of our data.

8. What is the key difference in deciding which statistical display or method may be most appropriate to a set of data?

9. Read the following situations and determine which statistical display or method would be most appropriate to better understand and analyze the data.

A. A teacher is looking at her grades at the end of the marking period. She wants to look at her grades graphically to better understand how her class performed as a whole. She wants to compare the number of A, B, C, D, and E's. What method(s) would be most appropriate and why?

B. A graduate student is conducting a study comparing the number of hours a student spends on their homework versus temperature outside. What method(s) would be most appropriate for the graduate student to best represent her data and why?

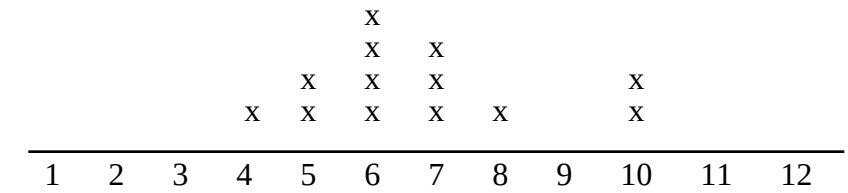
STUDENT WORKSHEET #1 NAME **ANSWER KEY**

HOW SHARP IS YOUR MEMORY!!!????

A. LINE PLOTS, HISTOGRAMS AND BOX AND WHISKER DISPLAYS

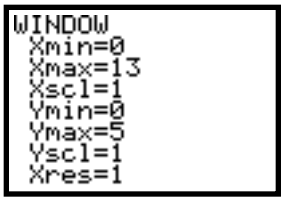
Answer each question using the information collected from the memory activity.
Write answers in complete sentences when appropriate. Label all graphs and answers.

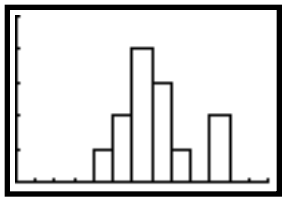
1. Using the data from trial 1, construct a line plot or frequency chart.



2. Using the TI-82 and the data from trial 1, construct a histogram. Please sketch the histogram below.

STEPS:
To enter data:
Press **STAT**, choose #1 **Edit**
Enter data into **L1**
Press **2nd Y=** for **STAT PLOT**
Choose # 1 **Plot 1** and hit **Enter**
Turn Plot 1 **ON**
Press down arrow key onto **Type.** Use right arrow key to **histogram icon**
Press enter
Xlist should show **L1** and **Freq** should show **1**
Press **ZOOM**, choose #9 **ZoomStat**
(You may need to adjust your window to see entire range of data)





3. What similarities do you see between the line plot and the histogram? Is one representation better than the other?

Answers may vary.
Possible answers: The distribution has the same shape. No.

4. Using trial 1 data, find the mean, median, and mode. You may want to use the calculator or determine by pencil and paper.

MEAN 6.69 MODE 6

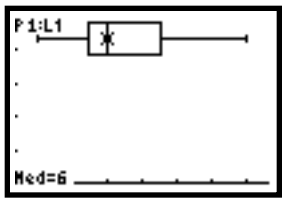
MEDIAN 6

4a. Describe different times when the mean, median, or mode may be the most appropriate ”average” of a set of data.

mean: to average grades
median: where the middle score is within the range of data
mode: most popular choice

5. Using the TI-82 and trial 1 data, construct a box and whisker plot. Please sketch and label the box and whisker plot.
(Use the steps in #2 except choose **box and whisker icon** instead of **histogram icon**.)

Use the **TRACE** key to determine the values below.



MEDIAN 6

Q1 5.5 Min X 4 Q3 7.5 Max X 10

What does Q1 represent? highest point of first quartile is 5.5

What does Q3 represent? highest point in third quartile is 7.5

What does Min X represent? lowest value of the data

What does Max X represent? highest value of the data

Calculate the interquartile range. 2

Calculate the range of the data. 6

6. Summarize and interpret your findings based on your trial 1 data. How do the different graphical displays and methods help you understand your data?

Answers may vary. Some possible answers: Efficient representation of the data. Picture of the data. Allows for a quick analysis of data. Very useful for large sets of data.

*7. In groups, complete questions 1-6 for a trial # assigned by your teacher. Record your results on posterboard and provide a summary to be shared with your classmates.

Answers may vary.

STUDENT WORKSHEET #2 NAME **ANSWER KEY**

HOW SHARP IS YOUR MEMORY!!!????

B. SCATTER PLOTS AND LINE OF BEST FIT

1. Using the class results spreadsheet provided by your teacher, calculate the mean for each of the eight trials to the nearest hundredth. Record on your spreadsheet.

Answers on trial table.

2. Clear L1 stat list on calculator. Enter trial # in L1 list. Enter your mean for each trial in L2. Which list represents your dependent variable (x) and which one represents your independent variable(y)?

L_1 represents x: the trial number
L_2 represents y: the average score

3. To view a scatter plot of your data:

STEPS:
Press **2nd Y=** , choose #1 **Plot 1** and turn **ON**. Choose **scatter plot icon**, **Xlist: L1 Ylist: L2**, Mark: **box** icon. Press **ZOOM** and choose #9 **ZOOMSTAT** which will choose a window for your data.

3a. Do the points on your scatter plot look linear? yes

3b. What is the direction of the data?

decreasing, negative correlation/slope; as more trials are completed, the number of words remembered decreases

3c. Based on the data, does it appear the number of times you do the activity will affect the number of words you remember? Why or why not?

Yes, as the number of trials increase, the number of words remembered decreases.

4. Use the TI-82 to find the line of best fit.

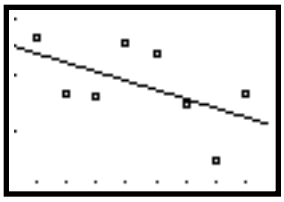
STEPS:
Go to **STAT**, **CALC** and choose #4 **LinReg (ax + b)**
LinReg (ax + b) should show up on the home screen. Press **Enter**. The calculator will default to L1 and L2 so you do not need to type it in.

What do the values for **a** and **b** represent? a = slope; b = y-intercept

Go to **Y=** (make sure there are no equations in your calculator)
Press **VARS** and choose #5: **Statistics**
Use right arrow to choose **EQ** and choose #1: **RegEQ**
Press **Enter** to see the equation in **Y1 =**
Press **GRAPH** to see line of best fit

EQUATION OF LINE OF BEST FIT: Y = -.16464x + 6.56464

In the space below, sketch and label your scatter plot and line of best fit.



5. Does the line appear to represent the data? Give one reason to justify your answer.

Yes, the data points are evenly distributed.

6. Could you use the line of best fit to predict the number of words remembered after more than 8 trials? How would you do this?

Yes. Possible answers: substitute into the equation using paper and pencil; look at **Table** on calculator; look at **Trace** on calculator; use **2nd CALC**, **#1 value**

7. Using your line of best fit, predict the number of words remembered on the following trials:

Trial #12 about 5 Trial #15 about 4

Trial #20 about 3 Trial #30 about 2

SUMMARY AND ANALYSIS

There were basic differences in the way we looked at different parts of our data. We have looked at line plots, histograms, box and whisker, scatter plots and line of best fit. We have also looked at the mean, median and mode of certain parts of our data.

8. What is the key difference in deciding which statistical display or method may be most appropriate to a set of data?

To analyze one variable sets, use line plots, histograms, and box and whiskers.

To analyze two variable data sets, use scatter plots and line of best fit.

Mean, mode, and median can be used on one variable sets.

9. Read the following situations and determine which statistical display or method would be most appropriate to better understand and analyze the data.

A. A teacher calculates her grades at the end of the marking period. She wants to look at her grades graphically to better understand how her class performed as a whole. She wants to compare the frequency of A, B, C, D, and E's. What method(s) would be most appropriate and why?

Line plot, box and whisker, histogram, mean, mode, median

Reason: Enables you to analyze a one variable data set

B. A graduate student is conducting a study comparing the number of hours a student spends on their homework versus temperature outside. What method(s) would be most appropriate for the graduate student to best represent her data and why?

Scatter plots, line of best fit

Reason: Enables you to see the relationship between two variables

Trial Table ANSWER SHEET (answers will vary)

TRIAL NUMBER

		1	2	3	4	5	6	7	8
STUDENT NAME		6	5	5	5	5	3	3	3
		5	5	3	6	7	3	4	5
		7	5	7	9	7	7	4	6
		7	8	5	6	7	6	5	5
		7	4	4	5	7	6	3	8
		6	6	5	7	4	5	6	6
		10	7	5	7	9	6	5	7
		4	6	7	8	6	6	4	5
		5	7	7	5	5	5	5	6
		8	4	6	8	6	5	5	4
		10	7	7	7	8	7	6	8
		6	3	5	6	6	7	4	5
		6	7	7	7	6	5	4	6
AVERAGE		6.69	5.69	5.61	6.61	6.38	5.46	4.46	5.69

Assessment

Use the following information for problems 1 - 4. The weekly salaries of ten students from Wilde Lake High School working at WalMart are:

$175, $100, $150, $150, $120, $180, $90, $175, $200, $175

1. Draw a line plot for the salary distribution.

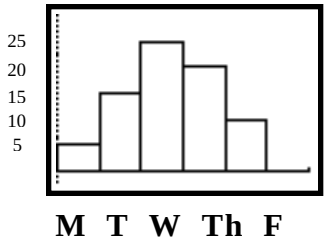
2. What is the mean salary?
   a) $150.00
   b) $151.50
   c) $162.50
   d) $175.00

3. What is the mode of the salaries?
   a) $150.00
   b) $151.50
   c) $162.50
   d) $175.00

4. What is the median salary?
   a) $150.00
   b) $151.50
   c) $162.50
   d) $175.00

Use the histogram to answer questions 5 and 6.

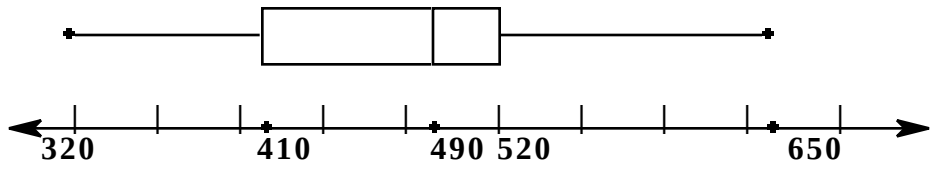
Number of cars washed each day at the school fund-raiser



5. How many cars were washed on the busiest day?
   a) 25
   b) 20
   c) 15
   d) 10

6. What is the difference in number of cars washed between the busiest and least busy day?
   a) 20
   b) 15
   c) 10
   d) 5

For questions 7 - 9 use the following box-and-whisker plot which shows the results of the Math SAT scores for Mrs. Moore's algebra class. Place the letter of the numerical value in the space before the statistical term.



7._____ Calculate the interquartile range.

8._____ The median is represented by this number.

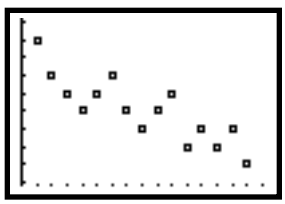
9._____ About 25% of the data falls below this number.

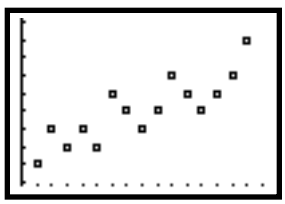
a) 110
b) 330
c) 410
d) 490

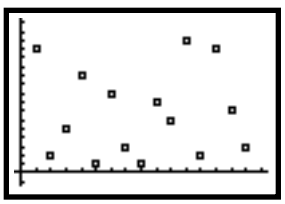
10. What is the range of the data?
    a) 110
    b) 160
    c) 200
    d) 330

11. For what number is it true that about 25% of the data falls above this number?
    a) 330
    b) 410
    c) 490
    d) 520

Use the scatter plots to answer questions 12 and 13.







12. Most students say their mood gets better as the school day goes by. State which scatter plot best represents this and explain why you chose that plot._____

_____

_____

_____

_____

_____

13. These were the scores on test #1 in Mrs. Blue's class:

29, 43, 51, 68, 71, 75, 77, 77, 82, 85, 86, 86, 87, 89, 91, 92, 92, 92, 94, 95

State whether Mark's score of 71 lies within 6 points of the mean and list the steps you used to arrive at your conclusion._____

_____

_____

_____

_____

14. The maximum Fahrenheit temperature at Ocean City, MD for each of the 31 days in July were:

78	82	82	83	84	88	90
92	94	98	93	89	88	88
86	80	79	75	76	76	77
81	84	84	85	86	88	88
88	94	89				

Draw a histogram with interval widths of 5 degrees to summarize this data. State which bar in the histogram represents the mode and explain why this is true.

_____

_____

_____

_____

_____

15. The quiz grades for sixteen students in Mr. Kline's Earth Science class were:

60, 75, 95, 100, 80, 85, 90, 75, 75, 50, 93, 88, 84, 94, 70, 78

Make a box-and-whisker plot for the data given.

16. Your scores so far at swim trials are **81, 90 and 92.** What will you need to score at the next trial to end up with a mean of 88?

a) 83
b) 86
c) 89
d) 92

17. Circle **true** or **false**: A box-and-whisker plot shows the mean of a data set.

18. These are the sizes of shoes sold one day at a men's shoe store in the mall:

8, 9, 10.5, 12, 7.5, 7, 10.5, 8, 8.5, 10.5, 13, 10.5, 14, 6, 10.5

You have a chance to make a big commission if you direct the store owner to order the right size replacements for what was sold. Write a convincing argument to show that the mode is the best measure of central tendency to use in this case._____
_____
_____
_____
_____

Use the data in the table to answer question 19.

(x) L1	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(y) L2	3	7	4	5	8	6	10	8	11	12	11	10	15	13

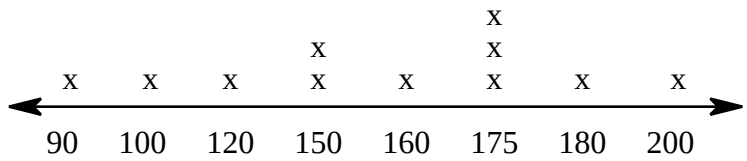
19. Find the equation of the line of best fit. What is the purpose of finding such a line?_____
_____
_____
_____
_____
_____

Assessment (Answer Key)

Use the following information for problems 1 - 4. The weekly salaries of ten students from Wilde Lake High School working at WalMart are:

$175, $100, $150, $150, $120, $180, $90, $175, $200, $175

1. Draw a line plot for the salary distribution. (see rubric)



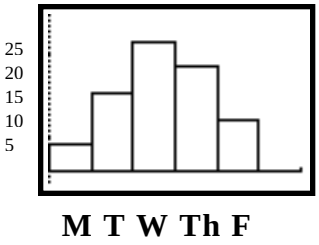
2. What is the mean salary?
   a) $150.00
   b) $151.50
   c) $162.50 B
   d) $175.00

3. What is the mode of the salaries?
   a) $150.00
   b) $151.50
   c) $162.50 D
   d) $175.00

4. What is the median salary?
   a) $150.00
   b) $151.50
   c) $162.50 C
   d) $175.00

Use the histogram to answer questions 5 and 6.

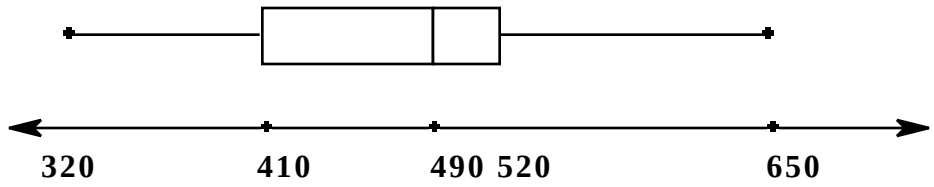
Number of cars washed each day at the school fund-raiser



5. How many cars were washed on the busiest day?
   a) 25
   b) 20
   c) 15 A
   d) 10

6. What is the difference in number of cars washed between the busiest and least busy day?
   a) 20
   b) 15
   c) 10 A
   d) 5

For questions 7 - 9 use the following box-and-whisker plot which shows the results of the Math SAT scores for Mrs. Moore's algebra class. Place the letter of the numerical value in the space before the statistical term.



7.___A___ Calculate the interquartile range.

8.___D___ The median is represented by this number.

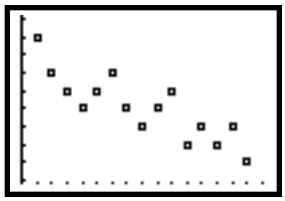
9.___C____ About 25% of the data falls below this number.

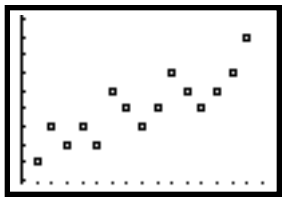
a) 110
b) 330
c) 410
d) 490

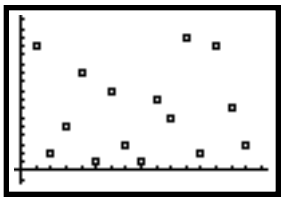
10. What is the range of the data?
   a) 110
   b) 160
   c) 200 D
   d) 330

11. For what number is it true that about 25% of the data falls above this number?
   a) 330
   b) 410
   c) 490 D
   d) 520

Use the scatter plots to answer questions 12 and 13.







(see rubric)
12. Most students say their mood gets better as the school day goes by. State which scatter plot best represents this and explain why you chose that plot._____
_____
_____

13. These were the scores on test #1 in Mrs. Blue's class:

29, 43, 51, 68, 71, 75, 77, 77, 82, 85, 86, 86, 87, 89, 91, 92, 92, 92, 94, 95

State whether Mark's score of 71 lies within 6 points of the mean and list the steps you used to arrive at your conclusion._____

14. The maximum Fahrenheit temperature at Ocean City, MD for each of the 31 days in July were:

(see rubric)

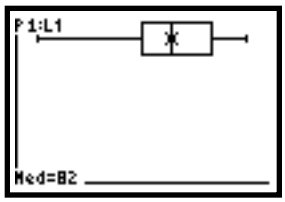
78	82	82	83	84	88	90
92	94	98	93	89	88	88
86	80	79	75	76	76	77
81	84	84	85	86	88	88
88	94	89				

Draw a histogram with interval widths of 5 degrees to summarize this data. State which bar in the histogram represents the mode and explain why this is true.

15. The quiz grades for sixteen students in Mr. Kline's Earth Science class were:

60, 75, 95, 100, 80, 85, 90, 75, 75, 50, 93, 88, 84, 94, 70, 78

Make a box-and-whisker plot for the data given. (see rubric)



16. Your scores so far at swim trials are **81, 90 and 92.** What will you need to score at the next trial to end up with a mean of 88?

a) 83
b) 86
c) 89 C
d) 92

17. Circle **true** or **false**: A box-and-whisker plot shows the mean of a data set. False

18. These are the sizes of shoes sold one day at a men's shoe store in the mall:

8, 9, 10.5, 12, 7.5, 7, 10.5, 8, 8.5, 10.5, 13, 10.5, 14, 6, 10.5
(see rubric)
You have a chance to make a big commission if you direct the store owner to order the right size replacements for what was sold. Write a convincing argument to show that the mode is the best measure of central tendency to use in this case._____
_____
_____
_____
_____

Use the data in the table to answer question 19. (see rubric)

(x) L1	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(y) L2	3	7	4	5	8	6	10	8	11	12	11	10	15	13

19. Find the equation of the line of best fit. What is the purpose of finding such a line?_____
_____
_____equation: y = .8x + 2.86667_____
_____
_____
_____

Performance Assessment

Scoring Guide
RUBRICS

1) 3 - correct graph **and** correct labels
2 - correct graph **or** correct labels
1 - all other responses
0 - blank paper

12) 3 - correct response with acceptable explanation
2 - correct response with incomplete explanation
1 - all other responses
0 - blank paper

13) 4 - includes all of the following:
correct response
appropriate steps
logical sequence of steps

3 - includes all of the following:
correct or incorrect response
appropriate response
logical sequence of steps

2 - includes all of the following:
correct or incorrect response
some of the steps correct

1 - all other responses

0 - blank paper

14) 4 - includes all of the following:
correct drawing with correct labels
correct mode
accurate explanation

3 - includes at least two of the following:
correct drawing with correct labels
correct mode
accurate explanation

2 - includes at least two of the following:
drawing not completely accurate
mode incorrectly identified
inaccurate explanation

1 - all other responses

0 - blank paper

15) 4 - includes all of the following:
graph correct
all labels correct
3 - includes one of the following:
graph correct with most of the labels correct
graph mostly correct with all the labels correct
2 - includes the following:
graph partially correct with some of the labels correct
1 - all other responses
0 - blank paper

18) 3 - argument is convincing and complete
2 - argument is undeveloped **or** incomplete
1 - all other responses
0 - blank paper

19) 4 - correct equation **and** well-developed explanation

3 - correct equation **and** incomplete explanation
or
incorrect equation **and** well-developed explanation

2 - correct or incorrect equation **and** poorly-developed explanation

1 - all other responses

0 - blank paper